

Result: There were total of 339 patients: 158 females and 181 males. 33 of 107 (30.8%) patients with stage IIIB had documented malignant PE, while 31 of 232 (13.4%) patients with stage IV had malignant PE ($p < 0.01$). The median survivals for the 4 subgroups of patients: stage IIIB without PE, IIIB with PE, IV without PE and IV with PE were 27 mo, 6 mo, 10 mo and 7 mo respectively. The survival for stage IIIB without PE was statistically significantly different from the other three subgroups ($p < 0.0001$). Median survival was 10 months for females and 7 months for males ($p = 0.001$).

In univariate analysis, age, histology, family history, menopausal status, ethnicity, and smoking history were not significant independent prognostic factors.

There were no significant relationships between stage and age, gender, or histology. Similarly, there were no associations between family history and age at diagnosis or histology.

Conclusion: Malignant PE is more commonly seen with IIIB than IV NSCLC, and is an independent prognostic discriminant for survival. Survivals of patients with PE in both IIIB and IV are similar, and a non-significant trend suggests a worse prognosis in comparison to patients with IV without PE. The small sample size may have contributed to the lack of statistically significant result. Patients with NSCLC and malignant PE could be categorized separately in the staging system if these results are statistically confirmed by future studies.

P1-035

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Distinctive characteristics of non-small cell lung cancer (NSCLC) in the young: Washington University experience

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Background: NSCLC predominantly affects patients in their sixth and seventh decades of life. It is unclear whether the presentation and outcomes are different in the younger (defined as age ≤ 40 years at the time of diagnosis) when compared with older patients (age > 40).

Methods: We reviewed the demographic, clinical and pathologic data of all patients diagnosed with NSCLC at Washington University School of Medicine-Siteman Cancer Center from 1990 to 2005.

Results: 6118 patients with NSCLC were identified and among them 6010 were > 40 years and 108 were ≤ 40 years of age at the time of diagnosis. The proportion of women in the younger group was 53.7% vs. 43.6% in the older group ($p = 0.03$). The distribution of stages I, II, III and IV in the younger group was 14%, 7.5%, 34.6% and 43.9% as compared to 28.9%, 7.8%, 29.8% & 33.5% in the older group ($p = 0.006$). Adenocarcinoma was the most common histology in the younger group compared to the older group (53.7% vs. 38.1%, $p < 0.001$). Squamous cell carcinoma was less common in the younger vs. older group (15.7% vs. 29.9%, $p < 0.001$). The proportion of younger patients diagnosed with brain metastasis at presentation was 18.5% vs. 10% in the older patients ($p = 0.004$). No significant differences were detected for metastases to the other sites. The 5-year survival was higher in the younger group for each stage, but reached statistical significance only in stage I disease, likely because of the small sample size (see table).

Conclusion: Lung cancer in younger patients is characterized by higher proportion of women, adenocarcinoma histology, stage IV disease, brain metastases at presentation and better overall survival when compared to older patients.

Table. Stage specific 5-year survival

	Age ≤ 40	Age ≤ 40	Age > 40	Age > 40	p value
	N	5 yr survival (%)	N	5 yr survival (%)	
Stage I	15	85	1698	45	0.01
Stage II	8	64	469	31	0.20
Stage III	37	20	1789	12	0.13
Stage IV	47	9	2019	2	0.052

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Characteristics of non-small cell lung cancer in patients under 40: a National Cancer Database (NCDB) Analysis 1998-2004

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Background: The median age of patients presenting with non-small cell lung cancer (NSCLC) is 70 years and the condition is rare in younger adults. NSCLC appears to have a different presentation and natural history in younger patients.

Methods: The National Cancer Data Base (NCDB) is a cancer database maintained by the American College of Surgeons. The NCDB data is obtained from the cancer programs participating in the Commission on Cancer NCDB annual call for data. Permission was obtained from the American College of Surgeons to access and analyze the data for publication. All patients diagnosed with NSCLC from 1998 to 2004 were identified from the NCDB. The gender, race, stage and histology data were obtained from the NCDB. The characteristics of patients with NSCLC from 16-39 years of age were compared to the entire group.

Results: A total of 657,982 patients with NSCLC were diagnosed from 1998-2004. Only about 0.7% (4769) of these patients was under 40. We compared the characteristics of NSCLC in younger group to the entire cohort (Table). Younger patients were more likely to be women, 52 % vs 42 % ($p < 0.001$), and more likely to present with distant disease (stage 3 & 4) 74 % vs 60 % ($p < 0.001$). Adenocarcinoma was more common in younger patients, 46 % vs. 37 %. Squamous cell carcinoma was far less common in younger patients, 12 % vs 27 % ($p < 0.001$).

Conclusions: Patients with NSCLC who are < 40 years old at diagnosis are more likely to be women and have adenocarcinoma and far less likely to have squamous cell carcinoma. Thus it appears that NSCLC in patients < 40 years are biologically different.

	< 40	%	All Patients	%
Total Number	4769		657982	
Gender				
Male	2287	48.0	380645	57.9
Female	2482	52.0	277337	42.1
Race				
White	3502	73.4	554147	84.2
Black	715	15.0	68427	10.4
Asian	194	4.1	10652	1.6
Other	358	7.5	24756	3.8
Stage				